

states of the United States. The incoming and outgoing commerce of this vast territory will to some extent be diverted from present United States channels to the Canadian channel of the St. Lawrence. This diversion cannot fail to be productive of material advantages to the Canadian territory adjacent to the St. Lawrence, particularly in respect to the transshipment of lake to ocean traffic and vice versa.

32. By affording navigation facilities to large deep draft vessels, particularly in the Upper Lakes—the cheapest form of transportation ever devised by mankind—the Waterway will effect a marked saving in the cost of the shipment of wheat and other grains, of coal, of lumber, and of other bulk commodities, all so profoundly important to Canada's present and future trade.

33. In proceeding with the Deep Waterway, Canada is but following an old tradition and policy, originally established in 1700 and consistently pursued for more than 230 years by all governments and parties. In the year 1700 Dollier de Casson commenced building the first Lachine canal, which had a depth of $1\frac{1}{2}$ feet. The depths of these canals have grown— $1\frac{1}{2}$ feet, $2\frac{1}{2}$ feet, then 5 feet, then 9 feet, then 14 feet and now 27 feet.

34. Canada is founded upon and owes her national existence and her political independence to east and west transportation. The Waterway by cheapening this basic east and west movement for a distance of 2,200 miles cannot but contribute to national prosperity and independence.

35. To British Columbia the Waterway will bring larger Canadian markets in Ontario, while to the Prairie Provinces it provides decreased cost in the movement of grain. To Ontario and Quebec there comes the conjunction of deep waterway shipping facilities and vast power resources, with all the industrial consequences which must flow from such an unique circumstance. To the Maritimes the Waterway brings a new and marked increase in the availability of the Ontario markets. The St. Lawrence System will stabilize and make more certain Canada's competitive export position and will reduce the cost of imports. It will confer abundant power on the citizens of the St. Lawrence basin and will thus create a highly industrialized development. In addition to the direct benefits thus clearly foreseen there will be a whole range of indirect benefits which must enure to Canada.

36. Finally, because it will cheapen basic east and west transportation, the Waterway will make a substantial contribution to the early attainment and permanent enjoyment of a goal profoundly desired by all Canadians—a national life that will be politically free because economically sound.

I am going to supplement that with another memorandum, dealing with an article which I read in Halifax, by Mr. F. J. D. Barnjum, who makes a very vigorous onslaught on the waterway. His principal ground is that by the time it is completed there will not be sufficient water to float the ships, and that the flow of the St. Lawrence River will be decreased by reason of increased evaporation. I communicated with the proper branch of

the Department of Railways, sending them this article, and asked them to give me their views on it. I have them here. The honourable senator from Hamilton (Hon. Mr. Lynch-Staunton) discussed in part something that was said about the levels. I am going to hand this memorandum also to the reporter, if there is no objection. I will just mention that it points out that records of levels over one hundred years ago show that they were lower than those existing in 1925, and that cycles of high and of low levels have followed. This also has been borne out since 1925, as the levels of all the Great Lakes in 1929 reached a point from four to five feet above that of the minimum during the low-water period.

The statement deals also with the question of evaporation, and points out that there could be nothing of any consequence in that, because the existing surface is 95,190 square miles and with the construction of the proposed dams it would be increased to the trifling extent of only $12\frac{1}{2}$ square miles.

Then there is a statement in regard to the Oswego and Hudson route, which I am sure honourable members of the House will find very interesting. If there is no objection, to shorten proceedings—

Right Hon. Mr. GRAHAM: Would you mind reading the part of it referring to the Oswego and Hudson canal?

Hon. Mr. TANNER: I shall be very glad to do so.

The United States can build a deep waterway from the foot of Lake Ontario at Oswego to Albany, on the Hudson River, without reference to any international body, as the water supply for such a canal can be obtained locally.

The deepening of the Hudson River up to Albany was completed this year to a depth of 27 feet—

This was written over a year ago.

—and the completion of the Welland Ship Canal by Canada means that the gap between Oswego and Albany is the only portion remaining to be completed to provide a deep waterway for the United States from the middle west to the sea. This route would be open for at least one month each year longer than Montreal, and with rates cheaper out of New York than out of Montreal, might provide cheaper transportation than the St. Lawrence route. This project has been studied by U.S. Army engineers and they have reported that the benefits accruing therefrom would more than balance the carrying charges. Action on this project has been withheld, however, pending negotiations with Canada on the St. Lawrence.

There is no doubt that the all-American route, if built, would be a very serious threat to the St. Lawrence route.

The memorandum then refers to Mr. McLachlan's evidence before the Senate Committee, giving the pages.